

Application No: 10/623,933
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Applicant: James C. Smith

EB 125474367 US

IN THE CLAIMS:

CLAIMS: The following is a listing of all the claims in the application with their status.

Claims 1-17 (CANCELED)

18. (CURRENTLY AMENDED) A pipetting apparatus for transferring an internal calibrated volume of fluid having a wiping cap device for pipette tips, for removing all non-calibrated residue fluid attached to the smooth conical shaped outside surface of said a pipette tip during fluid transfer from a container , the wiping cap device comprising:

a tubular member having an open end;

a wiping cap including a base and a cup shaped member, said wiping cap coupled to said open end of said tubular member, said cup shaped member comprising a conical resilient wiper section, said wiper section getting smaller in the direction away from said open end to create a substantial closure at the apex of said wiper section and being configured to include at least one helically formed slot extending from said substantial closure forming a wiper finger, said wiper finger rotating more than one revolution and being adapted to be unobstructed and resiliently held in complete circumferential contact against said outside surface of said pipette tip inserted therethrough including squeegee like means to remove all said residue fluid attached to said smooth outside surface when said pipette tip is withdrawn axially through said wiper finger whereby said outside surface has said residue fluid removed and leaving said internal calibrated fluid within said pipette tip for fluid transfer; and

said wiping cap including means for securing said wiping cap to said tubular member.

19. (PREVIOUSLY PRESENTED) The device of claim 18 wherein said means for securing said wiping cap to said tubular member includes threads formed on the outer wall of said tubular member and mating threads formed on a threaded skirt attached to and depending from the periphery of said base of said wiping cap.

20. (ORIGINAL) The device of claim 18 wherein said wiping cap between said base and said wiper section of said cup shaped member includes a frustum section adapted for mating with said tubular member so as to form a seal therebetween.
21. (ORIGINAL) The device of claim 18 wherein said wiping cap is configured to receive a locking cap within said cup shaped member so as to form a seal therebetween and sandwich said wiping cap between said locking cap and said tubular member.
22. (CURRENTLY AMENDED) The device of claim 21 wherein said locking cap is fastened to said wiping cap by hinged means, said locking cap includes ~~a~~ said top portion providing engageable access into said wiping cap.
23. (PREVIOUSLY PRESENTED) The device of claim 21 wherein said wiping cap and said locking cap are each coupled to said tubular member by means of a flexible member.

Claims 24-46 (CANCELED)

47. (CURRENTLY AMENDED) A sealable wiping device comprising:

a tubular member having an open end;

a wiping cap including a cup shaped member configured to occlude the open end of said tubular member when said wiping cap is positioned in said open end, said cup shaped member comprising a conical resilient wiper section, said conical shape of said wiper section getting smaller in diameter in the direction away from said open end to create a substantial closure at the apex of said wiper section and being configured to include at least one helically formed slot extending from said substantial closure forming a wiper finger, said wiper finger rotating more than one revolution and being adapted to be unobstructed and resiliently held in complete circumferential contact against the smooth conical outside surface of a pipette tip inserted therethrough, said wiper finger including squeegee like means to remove all non-calibrated residue fluid attached to said smooth ~~from said~~ outside surface of said pipette tip when said pipette tip is withdrawn axially through said wiper finger; and

a locking cap configured to be received into said cup shaped member of said wiping cap so as to form a seal therebetween.

48. (PREVIOUSLY PRESENTED) The device of claim 47 wherein said locking cap is configured to sandwich said wiping cap between said locking cap and said tubular member.

49. (PREVIOUSLY PRESENTED) The device of claim 47 wherein said wiping cap and said locking cap are each coupled to said tubular member by means of a flexible hinged member.

50. (PREVIOUSLY PRESENTED) The device of claim 49 wherein said locking cap and said wiping cap are in the sealed locked position within said open end of said tubular member, each said flexible hinged member being configured such that when said locking cap and said wiping cap are locked together, significant movement of said locking cap and said wiping cap is away from said open end of said tubular member, said movement is precluded without deformation of said flexible hinged member of said wiper cap or said locking cap.

51. (PREVIOUSLY PRESENTED) The device of claim 47 wherein said tubular member, said wiping cap and said locking cap are created as a one-piece injection molded part.

52. (PREVIOUSLY PRESENTED) The device of claim 50 wherein said hinges are attached to said tubular member at locations spaced 180 degrees from one another.

53. (PREVIOUSLY PRESENTED) The device of claim 47 wherein said wiping cap is fixed to said tubular member by fastening means selected from the group consisting of mechanical threads, press or snap fit.

54. (PREVIOUSLY PRESENTED) The device of claim 47 wherein said locking cap is hingedly secured to said wiping cap including means for releasably locking said locking cap and said wiping cap together when said caps are positioned over said open end of said tubular member.

55. (PREVIOUSLY PRESENTED) The device of claim 47 wherein said locking cap includes a top section engageable with a portion of said cup shaped member, said top section providing access into said wiper cap.

56. (PREVIOUSLY PRESENTED) The device of claim 47 wherein said locking cap and said wiping cap are coupled together by a flexible member.
57. (PREVIOUSLY PRESENTED) The device of claim 47 wherein said pipette tip has an inside cavity and said inside cavity is filled with a calibrated fluid sample.
58. (PREVIOUSLY PRESENTED) The device of claim 18 wherein said pipette tip has an inside cavity and said inside cavity is filled with a calibrated fluid sample.